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#3183

WATER QUALITY MEMORANDUM
Utah Coal Regulatory Program

December 22, 2009

TO: Internal File

THRU: James Smith, Permit Supervisor

FROM: Kevin Lundmark, Environmental Scientist II

RE: 2008, 3rd Quarter Water Monitoring, Canyon Fuel Company (CFC), LLC, Dugout Mine, C/007/0039-WQ08-3, Task ID #3183

Canyon Fuel Company is conducting mining operations in Dugout Canyon. Mining is progressing north and eastward under the Book Cliffs. Several springs are located in the canyons. Operations are also taking place at a fan portal in Pace Canyon and a refuse pile in the valley below Dugout Canyon. This report is based on data complied in file O:\0070039.dug\WaterQuality\Dugout_All_Dec2009.xls.

Table 7-4 of the MRP identifies the ground water monitoring (frequency) plan for wells and springs. Table 7-4 also identifies the parameters that will be monitored. Appendix 7-6 of the MRP identifies the UPDES sites, and current status monitoring parameters, discharge limits and monitoring frequency. Table 7-5 identifies the surface water program and water quality parameters that will be monitored.

The protocols set forth in Table 7-4 and 7-5 identify monitoring programs to be followed during years of normal precipitation and non-normal precipitation, as defined in the PHC. Selected surface and groundwater sites will be monitored weekly from April 1 through August 31 during the first non-normal wet (>110% of average) and dry (<70% of average) years following permit issuance, as defined by the NRCS snow pack for the Price - San Rafael area on March 1. The first non-normal dry year occurred in 2002, and weekly monitoring was completed April to August 2002 per the protocol. The NRCS snow pack data on February 29, 2008 for the Price-San Rafael area was 108% of average, as reported in the Dugout Canyon 2007 Annual Report.

1. Was data submitted for all required sites?

Springs YES [X] NO [ ]

Springs in the operational and post-mining groundwater monitoring program include SC-65, SP-20, SC-14, SC-100, SC-116, 200, 203, 227, 259, 259A and 260. Locations of these springs are noted on Plate 7-1. Groundwater discharge from the old

Gilson coal seam workings is also monitored and identified as location MD-1.

No flow was reported for springs MD-1, 200, 227, and 259. All other springs in the groundwater monitoring program reported flow. Data were also submitted for springs 321, 322 and 324.

Streams YES [X] NO [ ]

Surface Water sites DC-1, DC-2, DC-3, PC-1a, PC-2, PC-3, FAN, and RC-1 are monitored for flow and chemistry once each calendar quarter during years with normal precipitation.

Stream site RC-1 reported no flow. In the Dugout Creek drainage, sites DC-1, DC-2 and DC-3 reported flows of 400, 13 and 10 gpm, respectively. In the Pace Creek drainage, sites PC1a, PC-2, PC-3 and FAN reported flows of 15, 446, 18 and 22 gpm respectively. Data were also submitted for stream sites SS-1, SS-2 and 323.

Wells YES [ ] NO [X]

Table 7-4 and Section 731.200 of the MRP specify that wells GW-10-2, GW-11-2 and GW-24-1 are to be monitored quarterly for water levels. Well GW-24-1 became blocked during the winter of 1999-2000 and was removed from monitoring after 4th Quarter 2004.

A water level was not recorded at well GW-11-2 due to a caved casing. Though not required by the MRP, water level data were collected for wells DH-1, DH-2 and DH-3.

UPDES YES [X] NO [ ]

There are six discharge sites from the disturbed area and mine into Dugout and Pace Canyon Creeks under UPDES permit UT0025593 issued by the Utah Division of Water Quality. The permit identifies the maximum discharge levels and monitoring requirements for specified constituents. Mine water is currently pumped directly into the Dugout Creek (001). Disturbed runoff is directed to the sedimentation pond that can discharge to the Dugout Creek (002). Discharge Site 003 is a discharge from the 30,000-gallon water tank and Site 004 is the discharge from the waste rock area. Mine water is pumped to Pace Creek (005) out the Fan Portal. Disturbed area runoff from Pace Canyon is directed to a catch pond, which discharges to Pace Creek (006).

Sites 004 and 006 did not discharge during 3rd quarter 2008. Site 001 discharged between 164 and 695 gpm and Site 005 discharged 75 to 768 gpm. Sites 002 and 003 discharged 0.000069 and 0.3 gpm, respectively, in July and did not discharge August and September.

2. Were all required parameters reported for each site?

Springs **YES [X] NO [ ]**

The required parameters were reported when flow was present.

Streams **YES [X] NO [ ]**

The required parameters were reported when flow was present.

Wells **YES [X] NO [ ]**

UPDES **YES [X] NO [ ]**

The required parameters were reported when discharges took place.

3. Were irregularities found in the data?

Springs **YES [X] NO [ ]**

Conductivity measurements for sites SC-116 and SP-20 are elevated. Dissolved magnesium, sulfate and TDS concentrations reported for SC-116 are the highest values reported to date.

Streams **YES [X] NO [ ]**

Sites where conductivity appeared elevated include DC-2, PC-2, DC-3, FAN and PC-1a, with measurements at DC-2 and PC-2 being substantially higher than previously measured values. Other parameters which are elevated include dissolved potassium (DC-2), dissolved sodium (DC-2 and PC-2), chloride (DC-2 and PC-2), sulfate (DC-2 and PC-2), TDS (DC-2) and carbonate (DC-2).

Wells **YES [ ] NO [X]**

UPDES **YES [X] NO [ ]**

The discharge reported for Site 002 (sediment pond discharge to Dugout Creek) on July 18, 2008 was 0.000069 gpm, or approximately 0.1 gallon per day. The operator did not provide an explanation of how such a low flow rate was measured.

4. On what date does the MRP require a five-year resampling of baseline water data.

The resampling due date is July 2014

5. Based on your review, what further actions, if any, do you recommend?

None.

Does the Mine Operator need to submit more information to fulfill this quarter's monitoring requirements? [ ] Yes [X] No

A copy of the data file will be e-mailed to the Mine Operator and DOGM Mine Inspector identifying any missing and irregular data.

6. Follow-up from last quarter, if necessary.
Did the Mine Operator submit all the missing and/or irregular data (datum)?

This report and the previous report were delayed to process mine permits.

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